

Claims

1. A fuel injection system for supplying fuel to direct- injection internal combustion engines, having a central fuel reservoir (1) between a feed pump (2) and a plurality of injectors (3) to be supplied with fuel, which communicate with the central fuel reservoir (1), and the injectors (3) are mounted in a cylinder head (5) of the engine for direct injection of fuel into a plurality of combustion chamber, characterized in that the fuel reservoir (1) is at least partly integrated into the cylinder head (5).
2. The fuel injection system of claim 1, characterized in that the fuel reservoir (1) is formed partly or entirely by a recess (6) in the cylinder head (5).
3. The fuel injection system of claim 1 or 2, characterized in that the fuel reservoir (1) has a storage volume which is formed by a cylindrical, elongated recess (6) in the vicinity of and along the injectors (3) in the cylinder head (5).
4. The fuel injection system of one of the foregoing claims, characterized in that the high-pressure lines (4) are integrated, in the form of connecting conduits (7), into the cylinder head (5).
5. The fuel injection system of one of the foregoing claims, characterized in that the fuel reservoir (1) is embodied as a cylindrical bore (6) in the cylinder head.
6. The fuel injection system of one of the foregoing claims, characterized in that the cylinder head (1) is formed by an insert part in the operation of casting the cylinder head (5).

7. The fuel injection system of one of the foregoing claims, characterized in that the fuel reservoir (1) is formed by a cylindrical tube (8), which is integrated into the cylinder head (5) in a bore (40) or recess (6).

8. The fuel injection system of one of claims 1-6, characterized in that the walls of the fuel reservoir (1) are formed by the material of the cylinder head (5) itself.

9. The fuel injection system of one of the foregoing claims, characterized in that one sealing body (9) each is inserted between the fuel reservoir (1) and each of the injectors (3).

10. The fuel injection system of one of the foregoing claims, characterized in that the fuel reservoir (1) for supplying fuel to direct-injection internal combustion engines is designed as a high-pressure reservoir.

11. A cylinder head (5) for direct-injection internal combustion engines, for operating the engine in conjunction with a fuel injection system which has a central fuel reservoir (1) that communicates, via respective high-pressure connections (4), with a plurality of injectors (3), and the injectors (3) are mounted in fastening openings (10) in the cylinder head (5), characterized in that the high-pressure connections (4) and the fuel reservoir (1) are embodied as at least partly integrated into the cylinder head (5).